

Remarks

The pending claims stand rejected for lack of Written Description and for lack of Enablement. A levied rejection for indefiniteness is obviated by the present Amendment.

Notwithstanding that the claims were entirely reworked in the prior submission, the Examiner has reiterated almost verbatim his prior rejections, with little or no reference to the actual claim language. Applicant is surprised and disappointed by the Examiner's failure to address the actual language of the claims. Applicant is further disappointed that, despite the very different scope of different claims, the Examiner has chosen not to address different claims individually, but rather has levied common rejections against all (but one) pending claims. The MPEP, specifically recommends against such action by an Examiner (see, for example, MPEP §707.07(d), which reads "An omnibus rejection of the claim . . . is stereotyped and usually not informative and should therefore be avoided. . . . A plurality of claims should never be grouped together in a common rejection, unless that rejection is *equally applicable* to all claims in the group; emphasis added"). Moreover, Applicant continues to be dismayed by the factual and logical inaccuracies in the Examiner's statements.

For Example, the Examiner does not disagree with any point made by the Applicant in explaining why controlling case law (*Invitrogen*) clearly establishes that the claims in the present case fully satisfy the Written Description requirement. The Examiner offers exactly two reasons that, in his view, the outcome should be different in this case:

(1) The Examiner states that "this case is based upon a different specification, different art, and different claimed subject matter and the merits of the instant specification must be based upon the current application". Of course, this statement is not meaningful. *Every* two fact patterns are different. Legal decisions would be meaningless if they applied *only* to the facts in front of the court. The entire significance of legal precedent is that it applies to *similar* situations. Applicant has carefully explained the similarities between the present situation and *Invitrogen*. In light of those similarities, it is clear that, under the legal rule set out in *Invitrogen*, the present claims must be found to satisfy the written description requirement. As discussed more fully

below, the Examiner has not identified a single factual difference between the present case and *Invitrogen* that could support, let alone require, a different outcome in the present case. Indeed, the only difference even mentioned by the Examiner cuts in favor of patentability here (see below).

(2) The sole difference identified by the Examiner between *Invitrogen* and the present case is that “Unlike the *Invitrogen* case, the instant claims are not drawn to a polypeptide product, but rather they are drawn to a method of use of a very broad subgenus of DNA polymerases”. The Examiner has it backwards. The Examiner is correct that the claims at issue in *Invitrogen* were polypeptide claims, and the claims at issue in the present case are methods of using polypeptides; however, the Examiner is utterly incorrect in implying that the claims in the present case are more broad than those at issue in *Invitrogen*. Claims to a polypeptide are always broader than claims to a methods of using the polypeptide, because claims to the polypeptide itself encompass *any* use. Furthermore, the language used to recite the polypeptide in the *Invitrogen* claims was at least as broad as that used in the present case – in *Invitrogen*, there was no explicit recitation of *any* structure! On what basis does the Examiner assert that the present claims are to a “very broad subgenus of DNA polymerases” when the *Invitrogen* claims encompass *any* DNA polymerase that has reduced RNase H activity and is encoded by a modified reverse transcriptase nucleotide sequence derived from a retrovirus, yeast, *Neurospora*, *Drosophila*, primates, and rodents?

Ironically, after distinguishing the present case from *Invitrogen* on the ground that *Invitrogen* relates to description of a polypeptide product rather than a method of use of a polypeptide product, the Examiner goes on to say that the present claims are not described because “limiting the claimed methods to methods of use of DNA polymerases which have a specific function, does not relieve applicants of the need to describe the claimed genus” (i.e., that the difficulty is a failure by Applicant to describe the polymerase). Applicant has established, and the Examiner has not disagreed, that the DNA polymerases whose use is recited in the present claims are at least as well described as the DNA polymerases claimed in *Invitrogen*. Thus, under *Invitrogen*, Applicant has described the DNA polymerase. Applicant has also described its use, as recited in the present claims.

Should the Examiner not remove the rejection, Applicant respectfully requests that the Examiner identify:

(1) how the DNA polymerase description in the present case differs from that in *Invitrogen* such that the written description requirement is satisfied in one case and not the other;

(2) on what basis does the Examiner justify limiting the claims in the present case to only those specifically exemplified embodiments when *Invitrogen* holds that much broader description is supported by much narrower exemplification.

(3) his specific rationale as applied to each pending claim, given the dramatic difference in scope of different claims.

The Examiner also does not disagree with any point made by Applicants in comparing the present claims to Example 14 of the Written Description Guidelines. Instead, the Examiner dismisses the comparison completely, stating “Applicants are reminded that these are in fact just that, guidelines, to be used to help one determine whether the claims in question meet the description requirement” (sentence bridging pages 6 and 7).

Of course, this statement is not helpful. Clearly, Applicant has consulted the Guidelines, precisely as suggested, looking for help to “determine whether the claims in question meet the description requirement”. Applicant has carefully compared the claims and surrounding facts of the present case to the Guidelines and has found that the Guidelines indeed indicate that the claims meet the requirements. The Examiner ignores this analysis, provides no alternative analysis, and concludes his rejection with “Applicant is referred to the revised Guidelines concerning compliance with the written description requirement” (page 7).

The Examiner’s comments are internally inconsistent and, frankly, rude. If the Examiner is of the view that reference to the Guidelines is irrelevant because they are merely guidelines, then he should not instruct Applicants to refer to them. If he’s of the view that the way in which Applicants have referred to the Guidelines is somehow flawed, he should identify the flaws and provide an alternative comparison between the Guidelines and the present claims supporting his position. Repeated conclusory

statements, particularly when inaccurate, cannot advance prosecution in any productive way. Again, the MPEP instructs against such action (see, for example, MPEP §707.07(f), which reads “Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.”)

With regard to enablement, the Examiner maintains his rejection without offering *any* explanation. The Examiner merely states “It continues to be acknowledged that the nature of the invention, the synthesis of a DNA, is well within the ordinary skill in the art, however, the incorporation of acyclonucleotides into a DNA or rather those polymerases which are capable of such incorporation is not as equally within the ordinary artisans skill”. This statement is an assertion, yet the Examiner provides *no* support (please see remark above with respect to MPEP §707.07(f)).

Synthesis of a DNA involves incubating a DNA polymerase capable of polymerizing nucleotides with (1) a template; and (2) nucleotides. The Examiner acknowledges that this is within the skill in the art. Incorporation of acyclonucleotides into a DNA involves incubating a DNA polymerase capable of incorporating acyclonucleotides with (1) a template; and (2) nucleotides. Thus, the only difference is which DNA polymerase is used. The present specification teaches that DNA polymerases with 30% overall identity with the polypeptide encoded by of SEQ ID NO:4 and including a 15 amino acid motif identical to one of SEQ ID NOs 5-22 (except for having up to 3 amino acid substitutions) can incorporate acyclonucleotides. Thus, there can be no *enablement* challenge beyond the *written description* challenge.

One particular factual inaccuracy made by the Examiner warrants direct and emphatic rebuttal. The Examiner states that “applicants have not related the subgenus of structure to the acyclonucleotide incorporation function” (pg 6, lines 4-5 of Office Action). This statement is incorrect. The Examiner acknowledges that “applicants have presented six examples of encompassed DNA polymerases, and required the inclusion of a 15-amino acid motif.” The Examiner fails to mention that the specification makes clear that (1) all tested DNA polymerases having the motif have the activity; and (2) DNA

polymerases lacking the motif do not (see, for example, page 19, lines 22-24, which state “Notably these enzymes for which not significant sequence similarity is found (i.e., Family A DNA polymerases, such as Tag) do not perform in similar ways in the current invention.” For all of these reasons, the rejection for lack of written description must be remedied.

The Examiner has indicated that claims to specifically exemplified species are allowable, and nothing more. Applicant respectfully submits that it is a rare invention indeed whose contribution is bounded precisely by the data generated by the Applicant. Does the Examiner really believe that a person of ordinary skill, reading the present specification, would have understood that only the particular exemplified DNA polymerases would work, and/or that the inventors contemplated and were in possession of only those particular molecules? If so, how does the Examiner explain the extensive discussion in the specification of related DNA polymerases that will have the same activity? Patents limited to exemplified species defeat the entire purpose of the patent system. Where is the *quid pro quo* when an Applicant shares all his insights, but can claim only his data? The rejections in this case should be removed and the case allowed to issue.

Applicant notes that a search of issued patents that include the word “polymerase” in the claims and that were examiner by Examiner Hutson (as the primary Examiner) yields 21 issued patents, none of which recites a percent identity lower than 90%. This approach is inconsistent with that of other Patent and Trademark Office Examiners. To give but a few examples, Applicant points to US patent number 7,393,635, issued July 1, 2008, which claims a method of using “*an Archaeal polymerase*”, US patent number 7,384,769, issued June 10, 2008, which claims a method of using “*a nucleic acid polymerase with 5'-3' nuclease activity*”, and US patent number 7,361,466, which claims a method of “conducting a nucleic acid polymerase reaction in the presence of at least one detectable terminal-phosphate-labeled nucleotide in the polyphosphate chain, which reaction results in the production of a labeled polyphosphate that is released from the detectable terminal-phosphate labeled nucleotide . . . “ without *any* limitation on the polymerase, or evidence that particular polymerases are capable of incorporating the recited labeled nucleotides. Even claims to polymerases themselves (not simply methods

of using them) are routinely issued with broader scope than permitted by Examiner Hutson. US patent number 6,127,155, for example, received a reexamination certificate in 2007 for claims to “A stable enzyme composition comprising a purified *thermostable nucleic acid polymerase enzyme* in a buffer that comprises one or more non-ionic polymeric detergents other than polyoxyethylene cetyether” (emphasis added).

It is therefore clear that Examiner Hutson’s approach diverges from that of other Examiners. It is also at odds with the Written Description Guidelines and, most importantly, with the legal standards articulated in the relevant case law (see discussion of *Invitrogen*, above). In the present case, Applicants have defined a class of polymerases useful to introduce acyclonucleotides. That the class does not fit into a 90% identity framework does not make it any less a defined class. Applicants have crafted claims appropriate to the *facts* of this case (that the class is properly defined with a lower degree of overall identity combined with presence of a specific recited sequence). Applicant has also explained thoroughly (in the prior submission) why the present claims meet the legal standards set forth in 35 USC § 112. The claims should be allowed.

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Respectfully submitted,

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